AMENDMENTS TO THE SPECIFICATION

Please replace paragraph 84 with the following paragraph:

[84] The medical device system may calculate one or more variables that quantify the quality of the neurological signal received from each of the monitoring elements. For each variable, data points of the received neurological signal may be gathered and analyzed within a given moving window. The percentage of data points with associated signal quality variable falling above or below a predetermined range may be determined and monitored as the window moves with time. The resulting percentage values will be numbers between 0 and 100, representing quality, so that the medical system can quantify the quality of each associated window of data points. The medical system may use the computed quality to accept or reject data during monitoring.[[.]] Depending on the embodiment of the medical device system, this process may be implemented as software modules within any one of the components of the external system, either the implantable device 953 or the external device 950, or within the implantable system 10. Each quality variable of the received raw neurological signal, or processed signals obtained through some transformation of the neurological signals to be used in subsequent processing, may be continuously and independently monitored. Separate software modules may exist for each quality variable of the signals being monitored.

Please replace paragraph 99 with the following paragraph:

[99] A maximal amount of poor quality data that is tolerable may be qualified using different criterion. Poor quality data may be gauged by a signal power to noise power ratio (S/N) that is associated with neurological data. Also, poor quality data may be gauged by a fraction of the foreground window that contains a noisy signal. Typically, the foreground window is more vulnerable to noise than the background window since the foreground is determined over a shorter time duration. One may also consider different artifacts. Movement artifacts may be detected with accelerometers, in which corresponding outputs may be used to reduce or even cancel the movement artifacts. Other types of artifacts that may be considered ~~consider~~ include EKG artifacts and disconnection artifacts. EKG artifacts, when recorded from intracranial electrodes, are an indication of high impedance. Disconnection artifacts may be identified by stationary noise in one lead or a set of leads. The characteristics of a baseline that are associated

with neurological data may assist in identifying a cause of poor quality data. For example, a flat line without a shift in the baseline and without noise may be indicative that an amplifier has been deactivated or has failed.

Please replace paragraph 106 with the following paragraph:

[106] In step 2027, which comprises sub-steps 2029 and 2031, the correctness of electrode placement for seizure detection is verified. In sub-step 2029, the ITEO (investigator time of electrographic onset corresponding to time event 1903 in Figure 19) and the CBOT (clinical behavior onset time corresponding to time event 1907 in Figure 19) are provided to the medical device system. (In the embodiment, step 2027 is optional so that the clinician need not provide ITEO and CBOT to the medical device system.) In sub-step 2031, the medical device system determines if the ITEO did not occur after the CBOT. In the embodiment, the fact that the CBOT occurs before the ITEO is indicative that the selected electrodes are not sufficiently near the focus. In such a case, step 2032 determines whether to stop screening. If so, screening is ended in step 2034. Otherwise, step 2004 allows the physician ~~physcian~~ to reposition subdural and/or DBS electrodes. The baseline algorithm monitoring sub-process 2003 is repeated.

Please replace paragraph 119 with the following paragraph:

[119] The medical device system may also ensure other efficacy criterions ~~criterion~~ are satisfied for any user-defined treatment therapy configuration. For example, the medical device system providing stimulation therapy may ensure that the polarities of the stimulation pulses are properly defined, e.g., all polarities cannot be off and that the voltage level is greater than zero on at least one stimulation channel, and that at least one cathode and at least one anode are configured.

Please replace paragraph 193 with the following paragraph:

[193] The relative severity scores are computed using an "interpolating empirical probability function" (defined below) derived from all detection clusters in the comparable parameter set that have been previously scored by the investigator as TRUE POSITIVES. (However, scoring is not limited to TRUE POSITIVES and ~~an~~ may encompass other investigator classifications.) The function also utilizes the possible ranges of R, D, and I in the calculation (e.g., in the a priori case when there are no TPs marked yet because no review has been performed). For example, suppose these ranges are:

$$R_{min} = D_{min} = I_{min} = 0,$$

$$R_{max} = 6550,\ D_{max} = 65536 \text{ (frames)},\ I_{max} = 8.$$